WHAT IS CLAIMED IS:

1. A power conversion circuit for driving a fluorescent lamp, the circuit comprising a controller configured to generate signals with active states and inactive states, wherein durations of the respective active states are equal to or greater than an updated duration determined by a first pulse generator circuit which monitors cycles of current flowing through the fluorescent lamp with respective amplitudes above a preset threshold.

2. The power conversion circuit of Claim 1, wherein at least one control signal is provided to the controller indicating a control value for comparison with a value indicative of the number of cycles of current flowing through the fluorescent lamp with respective amplitudes above a preset threshold.

3. The power conversion circuit of Claim 1, wherein the controller comprises:

a pulse width modulation circuit;

an oscillator circuit; and

a dimming control circuit.

4. The power conversion circuit of Claim 3, wherein the dimming control circuit comprises:

a second pulse generator circuit configured to determine an initial duration for the active states;

the first pulse generator circuit configured to determine the updated duration for the active states; and

a logic gate configured to output a signal to the pulse width modulation circuit with a duty cycle corresponding to a greater of the initial duration for the active states and the updated duration for the active states.

5. The power conversion circuit of Claim 4, wherein the logic gate is an OR-gate.

6. The power conversion circuit of Claim 4, wherein the first pulse generator circuit comprises:

an amplifier configured to produce a pulse when a voltage representative of the current flowing through the fluorescent lamp transitions from below a reference voltage to above the reference voltage;

an accumulator coupled to the amplifier and configured to increase in value in response to the pulse; and

a comparator configured to compare a control value with a present value of the accumulator and provide indication when the present value of the accumulator equals or exceeds the control value.

7. The power conversion circuit of Claim 6, wherein the control value is provided via control signals and stored in a memory element of the first pulse generator circuit.

8. The power conversion circuit of Claim 6, wherein the accumulator is an n-bits binary counter which resets periodically.

9. The power conversion circuit of Claim 6, wherein the comparator is an n-bits digital comparator.

10. The power conversion circuit of Claim 6, wherein the amplifier includes internal hysteresis.

11. A method of controlling a reduced brightness of a fluorescent lamp comprising the acts of:

supplying an AC voltage to the fluorescent lamp in periodic bursts;

keeping track of desired cycles in an AC current flowing through the fluorescent lamp in response to the AC voltage, wherein amplitudes of the desired cycles exceed a preset threshold; and

adjusting durations of the bursts to achieve a predefined number of desired cycles in each burst.

12. A power conversion circuit for driving a fluorescent lamp at a reduced brightness level comprising:

means for providing an AC voltage to the fluorescent lamp during an on-time;

means for keeping track of desired cycles in an AC current flowing through the fluorescent lamp in response to the AC voltage, wherein amplitudes of the respective desired cycles exceed a preset threshold; and

means for adjusting the on-time to achieve a selected number of the desired cycles.

13. A power conversion circuit for driving a fluorescent lamp, the circuit comprising a controller configured to generate signals with active states and inactive states based in part on an input from a first pulse generator circuit which monitors cycles of current flowing through the fluorescent lamp with respective amplitudes above a preset threshold.